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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/483,167	01/14/2000	Ronald Bjorklund	838	8032

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EXAMINER
YANG, CLARA I

ART UNIT	PAPER NUMBER
2635	

DATE MAILED: 04/29/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/483,167	BJORKLUND ET AL.	
	Examiner	Art Unit	
	Clara Yang	2635	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 January 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *05* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1 and 13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The limitations "over about 100 feet" and "about 5 to about 100 feet" render both claims indefinite because there was nothing in the specification to provide any indication as to what range of specific distance is covered by the term "about". See MPEP § 2173.05(b). Furthermore, the meaning of "over about" is unclear. Because the Applicant teaches on page 6 (see line 19) of the specification that the range of a first-tier base station 122 is "a few to several hundred feet", the limitation is understood to be an operating range over 100 feet.

3. Claims 16 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The limitation "about 5 to about 100 feet" renders the claim indefinite because there was nothing in the specification to provide any indication as to what range of specific distance is covered by the term "about". See MPEP § 2173.05(b).

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1 - 3, 5, 7 - 10, and 12 - 18 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,790,536 (Mahany et al.).

Referring to Claims 1, 13, and 16, Mahany teaches a multi-tier communication system, as shown in Fig. 1b, comprising a host connected to a local area network (LAN) (see Fig. 1C). The multi-tier system also includes: (a) a first-tier base station 33 that has a first radio transceiver for spread spectrum radio transmission operating in accordance with a first communication protocol and is connected to the host via a LAN (see Col. 8, lines 66 - 67; Col. 9, lines 1 - 9; Col. 10, lines 55 - 58; Col. 11, lines 5 - 9; and Col. 42, lines 54 - 58); (b) a mobile computing device 35, 36 or second-tier base station that comprises a second radio transceiver having an operating range of tens of feet (see Col. 10, lines 48 - 50; Col. 40, line 17; and Col. 49, lines 53 - 56) operating in accordance with a second communication protocol independent of the first communication protocol (see Col. 10, lines 40 - 42 and Col. 11, lines 13 - 15) and is connected to first-tier base station 33 (see Col. 10, lines 48 - 55 and 59 - 67); (c) a mobile computing devices 35, 36 or first-tier remote unit that is wirelessly connected to base station 33 (see Fig. 3) through the first radio transceiver (see Col. 11, lines 5 - 9); and (d) peripherals 43 - 45 or second-tier remote units wirelessly connected to a mobile computing devices 35, 36 through the second radio transceiver (see Col. 11, lines 13 - 15). In Col. 29, lines 1 - 4, Mahany teaches that a wireless access point or first-tier base station extends a wired access point's coverage of 80,000 square feet by forty percent, thus implying that the maximum range of a wireless first-tier base station is 189 feet ($=[(80000\ ft.^2 \times 140\%)/\pi]^{1/2}$). Because Mahany teaches that mobile computing devices (i.e. second-tier base stations) are able to wirelessly communication with each other (see Col. 9, lines 21 - 24 and Col. 11, lines 30 - 34), it is inferred that Mahany's communication system can include another second-tier base station that is wirelessly connected to the second-

to the second-tier base station. In order to reduce the second radio transceiver's power consumption such that the second radio transceiver operates at a lower power than the first radio transceiver, Mahany teaches the following steps: (e) the second radio transceiver synchronizing with a mobile computing device or second-tier base station (see Col. 12, line 67; Col. 13, lines 1 - 3; Col. 16, lines 37 - 39; Col. 13, lines 8 - 18 and 54 - 67; and Col. 41, lines 15 - 28); (f) the second radio transceiver powering down for more than half of its operating time, resulting in a duty cycle of less than 5% (see Col. 17, lines 53 - 58; Col. 18, lines 8 - 18 and 54 - 67; Col. 32, lines 1 - 7; and Col. 35, lines 27 - 63); (g) the control point or second-tier base station buffering data intended for the second radio transceiver (see Col. 17, lines 34 - 39 and Col. 18, lines 43 - 46); and (h) the control point indicating or announcing the buffered data to the second radio transceiver at regular, predetermined intervals until the second transceiver retrieves the buffered data from the control point (see Col. 31, lines 14 - 18; Col. 35, lines 45 - 53; and Col. 41, lines 15 - 28).

Regarding Claims 2, 3 and 5, Mahany's first-tier or second-tier remote unit comprises a data collection device that is a bar code reader (see Fig. 45; Col. 10, lines 34 - 36; and Col. 62, lines 30 - 32) or a radio terminal (see Col. 63, line 31). Here it is understood that the radio terminal can be a pager.

Regarding Claims 7 and 8, Mahany's first-tier or second-tier remote unit comprises a computer peripheral such as a printer (see Col. 10, lines 31 - 36) or a hand-held computer terminal (see Col. 9, lines 27 - 29).

Regarding Claim 9 and 10, Mahany teaches that the second-tier base station is wirelessly connected to the first-tier base station and that the first-tier base station is wirelessly connected to the LAN (see Fig. 1C and Col. 11, lines 39 - 49).

Regarding Claim 12, Mahany teaches that mobile computing devices (i.e. second-tier base stations) are able to wirelessly communication with each other (see Col. 9, lines 21 - 24 and Col. 10, lines 40 - 42).

Regarding Claim 14, because Mahany imparts that the access points (i.e. base stations) can be configured to participate on both the premises LAN (i.e. as a first-tier base station) and the peripheral LAN (i.e. as a second-tier base station) and that a single radio transceiver can be used to achieve communication within the premises and peripheral LANs (see Col. 10, lines 45 - 47 and Col. 11, lines 1 - 4), it is interred that single radio transceiver is both a first-tier and second-tier base station and that it is in an enclosure.

Regarding Claim 15, Mahany teaches that mobile computing devices (i.e. second-tier base stations) are able to communication with each other (see Col. 9, lines 21 - 24). It is inferred that the communication between the second-tier base stations is wireless because the base stations are mobile.

Regarding Claim 17, because Mahany conveys that radio communication through the peripheral LAN (i.e. the second tier) uses a second communication protocol (i.e., a lower-power single frequency protocol) that differs from the one use by the premises LAN (see Col. 11, lines 5 - 15) and that mobile computing devices (i.e. second-tier base stations) are able to wirelessly communication with each other (see Col. 9, lines 21 - 24 and Col. 11, lines 30 - 34), it is understood that second-tier base stations communicate with each other in accordance with the second communication protocol.

Regarding Claim 18, in Fig. 1C, Mahany illustrates wirelessly and serially connecting a plurality of second-tier base stations to a first-tier base station. Each second-tier base station comprises a second radio transceiver operating in accordance with a second communication

protocol independent of the first communication protocol (see Col. 10, lines 40 - 42 and Col. 11, lines 13 - 15).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 4, 6, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,790,536 (Mahany et al.) as applied to claim 1 above, and further in view of U.S. Patent No. 5,673,252 (Johnson et al.).

Regarding Claim 4, Mahany omits teaching that the first-tier or second-tier remote unit comprises a vending machine.

In an analogous art, Johnson's multi-tier communication system includes: (a) a first-tier base station, or intermediate data terminal (IDT), that has a first radio transceiver operating in accordance with a first communication protocol and is connected to a local area network (LAN)

(see Fig. 1, IDT 114; and Col. 22, lines 41 - 45 and 56 - 57); (b) a second-tier base station, or remote cell node (RCN), that comprises a second radio transceiver operating in accordance with a second communication protocol independent of the first communication protocol and is connected to the first-tier base station (see Fig. 1, RCN 112; Col. 11, lines 46 - 49; and Col. 18, lines 17 - 20); (c) a first-tier remote unit wirelessly connected to the first-tier base station (IDT) through the first radio transceiver (see Fig. 1, special and Col. 6, lines 23 - 28); and (d) a second-tier remote unit, or network service module (NSM), wirelessly connected to the second-tier base station (RCN) through the second radio transceiver (see Col. 5, lines 47 - 52). Because Johnson's multi-tier system for digital radio packet communication is a wide area communications network, it is understood that the central data terminal (CDT) is connected to a wide area network (WAN) and that the IDTs are connected to a LAN. Johnson's second-tier remote unit (or NSM) comprises a vending machine (see Col. 10, lines 6 - 9).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Mahany's first-tier or second-tier remote unit as taught by Johnson because automatic data collection from remote units, such as vending machines or meter service modules, eliminates the need for personnel to inspect and physically note the state of each remote unit (see Johnson, Col. 1, lines 37 - 42).

Regarding Claim 6, Mahany is silent on the first-tier or second-tier remote unit comprising a door lock.

Because Johnson discloses that the NSM has a plurality of sensors (see Fig. 2, basic sensors 320 and other sensors 322), that NSMs include an alarm monitoring module or any other module that can be used with the communications network (see Col. 10, lines 4 - 6), and that the NSM-packet signal can be used to convey alarm conditions such as tilting of the

network service module indicative of tampering or other unusual condition (see Col. 4, lines 11 - 17), it is understood that the NSM comprises a door lock to be monitored and controlled by the system.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Mahany's first-tier or second-tier remote unit as taught by Johnson because automated monitoring of door locks by the multi-tier system, in addition to providing remote processing and data storage for peripheral devices, further enhances the capabilities of the system.

Regarding Claim 11, Mahany fails to expressly teach connecting a second-tier base station to a first-tier base station through a serial port.

Because Johnson imparts that the IDT and RCN can be connected via cable (see Col. 18, lines 65 - 67), it is understood that the RCN is connected to the IDT through a serial port.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Mahany's multi-tier system as taught by Johnson because connecting the first-tier and second-tier base station through a serial port eliminates transmission errors cause by radio frequency (RF) interference, thereby improving system reliability.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Clara Yang whose telephone number is (703) 305-4086. The examiner can normally be reached on 8:30 AM - 7:00 PM, Monday - Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Horabik can be reached on (703) 305-4704. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.

CY
April 21, 2003

BRIAN ZIMMERMAN
PRIMARY EXAMINER